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What is claimed is:

1. A method of ameliorating impaired glucose tolerance in a subject in need thereof, comprising: administering to the subject a pharmaceutical composition, comprising placental adherent stromal cells (ASC), thereby ameliorating impaired glucose tolerance.

2. The method of claim **1**, wherein said subject is at least 60 years of age at the onset of treatment.

3. The method of claim **1**, wherein said subject has a HbA1c value of at least 43.5 mmol/mol at the onset of treatment.

4. The method of claim **1**, wherein said subject has a body mass index of at least 27.5 kg/m^2 at the onset of treatment.

5. A method of reducing systemic inflammation in a subject with impaired glucose tolerance in a subject in need thereof, comprising: administering to the subject a pharmaceutical composition, comprising placental adherent stromal cells (ASC), thereby reducing systemic inflammation in a subject with impaired glucose tolerance.

6-8. (canceled)

9. The method of claim **1**, wherein said ASC have been incubated on a 3D culture substrate in a bioreactor.

10. The method of claim **9**, further comprising the subsequent step of harvesting said ASC by removing said ASC from said 3D culture apparatus.

11. The method of claim **9**, wherein said ASC have been incubated on a 2D adherent-cell culture substrate, prior to incubation in said 3D culture apparatus.

12. (canceled)

13. The method of claim **9**, wherein said 3D culture substrate comprises a synthetic adherent material formed as a fibrous matrix, wherein said synthetic adherent material is selected from the group consisting of a polyester, a polypropylene, a polyalkylene, a polyfluorochloroethylene, a polyvinyl chloride, a polystyrene, a polysulfone, a cellulose acetate, a glass fiber, a ceramic particle, a poly-L-lactic acid, and an inert metal fiber.

14-16. (canceled)

17. The method of claim **1**, wherein said administering comprises:

a. administering to the subject a first pharmaceutical composition, comprising allogeneic placental ASC from a first donor; and

b. administering to said subject, at least 7 days after step a), a second pharmaceutical composition comprising allogeneic placental ASC from a second donor, wherein said second donor differs from said first donor in at